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EXAMINER

DATSKOVSKIY, SERGEY

ART UNIT	PAPER NUMBER
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2121

DATE MAILED: 10/06/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,164

Applicant(s)

ADACHI ET AL.

Examiner

Sergey Datskovskiy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 April 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-10 have been submitted for examination.
2. Claims 1-10 have been rejected.

Drawings

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: Figure labels 1A and 1B. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: reference numbers 71, 72, 75 and 78 in Fig. 8. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application.

Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be

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notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claim 1 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of U.S. Patent No. 6,662,101. Although the conflicting claims are not identical, they are not patentably distinct from each other because claims of the application are broader than the claims of the patent. Specifically, "event information" from claim 1 of the patent can be viewed as a subset of "additional information" from claim 1 of the currently examined application.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

6. Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

7. The method claims 1-7 and 8-10 as presented do not claim a technological basis in the pre-amble and the body of the claim. Without a claimed basis, the claims may be interpreted in an alternative as involving no more than a manipulation of an abstract idea and therefore non-statutory under 35 U.S.C. §101. In contrast, a method claim that includes in the body of the claim, some structural / functional interrelationship which can only be computer implemented is considered to have a technological basis [See Ex parte Bowman, 61 USPQ2d 1669, 1671 (Bd. Pat. App. & Inter. 2001) - used only for content and reasoning since not precedential].

Claims 1-7 are directed toward a method of transmitting location information. However, the preamble and the body of the claims do not indicate that a computer system executes the method. The method is not described as a program running on a computer, and the steps of reporting location information and performing shape matching do not contain any evidence of using a computer. In fact, such transmitting could even be done by voice and the shape matching could be done by a person doing a visual map comparison.

Claims 8-10 are directed toward a method for thinning-out a plurality of points. However, the preamble and the body of the claims do not indicate that a computer

system executes the method. The method is not described as a program running on a computer, and the steps of providing a string of coordinates, determining the bearing deviation and distance, and omitting a point do not contain any evidence of using a computer. The claimed steps could be performed by a person using pen and paper.

In order to over come the 101 rejections above, the following preamble is suggested:

A computer implemented method for ---, or something similar.

Also, in the body of the claims include some structural / functional interrelationship which can only be computer implemented.

8. Regardless of whether any of the claims 8-10 are in the technological arts, none of them is limited to practical applications in the technological arts. Examiner finds that *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) controls the 35 U.S.C. §101 issues on that point for reasons made clear by the Federal Circuit in *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447 (Fed. Cir. 1999). Specifically, the Federal Circuit held that the act of:

...[T]aking several abstract ideas and manipulating them together adds nothing to the basic equation. *AT&T v. Excel* at 1453 quoting *In re Warmerdam*, 33 F.3d 1354, 1360 (Fed. Cir. 1994).

Examiner finds that Applicant's "problem" references are just such abstract ideas.

9. Examiner bases his position upon guidance provided by the Federal Circuit in *In re Warmerdam*, as interpreted by *AT&T v. Excel*. This set of precedents is within the same line of cases as the *Alappat-State Street Bank* decisions and is in complete

agreement with those decisions. *Warmerdam* is consistent with *State Street*'s holding that:

Today we hold that *the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price*, constitutes a practical application of a mathematical algorithm, formula, or calculation because it produces 'a useful, concrete and tangible result' -- *a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades*. (emphasis added) *State Street Bank* at 1601.

10. True enough, that case later eliminated the "business method exception" in order to show that business methods were not per se nonstatutory, but the court clearly *did not* go so far as to make business methods *per se statutory*. A plain reading of the excerpt above shows that the Court was *very specific* in its definition of the new *practical application*. It would have been much easier for the court to say that "business methods were per se statutory" than it was to define the practical application in the case as "...the transformation of data, representing discrete dollar amounts, by a machine through a series of mathematical calculations into a final share price..."

11. The court was being very specific.

12. Additionally, the court was also careful to specify that the "useful, concrete and tangible result" it found was "a final share price momentarily fixed for recording purposes and even accepted and relied upon by regulatory authorities and in subsequent trades." (i.e. the trading activity is the further practical use of the real world monetary data beyond the transformation in the computer – i.e., "post-processing activity".)

13. Applicant cites no such specific results to define a useful, concrete and tangible result. Neither does Applicant specify the associated practical application with the kind of specificity the Federal Circuit used.

14. Furthermore, in the case *In re Warmerdam*, the Federal Circuit held that:

...[T]he dispositive issue for assessing compliance with Section 101 in this case is whether the claim is for a process that goes beyond simply manipulating 'abstract ideas' or 'natural phenomena' ... As the Supreme Court has made clear, '[a]n idea of itself is not patentable, ... taking several abstract ideas and manipulating them together adds nothing to the basic equation'. In re Warmerdam 31 USPQ2d at 1759 (emphasis added).

15. Since the Federal Circuit held in *Warmerdam* that this is the "dispositive issue" when it judged the usefulness, concreteness, and tangibility of the claim limitations in that case, Examiner in the present case views this holding as the dispositive issue for determining whether a claim is "useful, concrete, and tangible" in similar cases. Accordingly, the Examiner finds that Applicant manipulated a set of abstract "points" to solve purely algorithmic problems in the abstract. Despite being described in the abstract of the claim 8 as "points representing a road shape", such statement merely represents an intended use, while no evidence is found in the body of the claim for said points being limited to a specific practical representation (even the term "road shape" is abstract enough, that it may be defined in multiple ways, such as, for example, the curvature of the road or its flatness). Clearly, a claim for thinning-out a plurality of points representing a road shape is provably even more abstract (and thereby less limited in practical application) than pure "mathematical algorithms" which the Supreme Court has held are per se nonstatutory – in fact, it *includes* the expression of nonstatutory mathematical algorithms.

16. Since the claims are not limited to exclude such abstractions, the broadest reasonable interpretation of the claim limitations includes such abstractions. Therefore, the claims are impermissibly abstract under 35 U.S.C. §101 doctrine.

17. Since *Warmerdam* is within the *Alappat-State Street Bank* line of cases, it takes the same view of “useful, concrete, and tangible” the Federal Circuit applied in *State Street Bank*. Therefore, under *State Street Bank*, this could not be a “useful, concrete and tangible result”. There is only manipulation of abstract ideas.

18. The Federal Circuit validated the use of *Warmerdam* in its more recent *AT&T Corp. v. Excel Communications, Inc.* decision. The Court reminded us that:

Finally, the decision in *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754 (Fed. Cir. 1994) is not to the contrary. *** The court found that the claimed process did nothing more than manipulate basic mathematical constructs and concluded that ‘taking several abstract ideas and manipulating them together adds nothing to the basic equation’; hence, the court held that the claims were properly rejected under §101 ... Whether one agrees with the court’s conclusion on the facts, the holding of the case is a straightforward application of the basic principle that mere laws of nature, natural phenomena, and abstract ideas are not within the categories of inventions or discoveries that may be patented under §101. (emphasis added) *AT&T Corp. v. Excel Communications, Inc.*, 50 USPQ2d 1447, 1453 (Fed. Cir. 1999).

19. Remember that in *In re Warmerdam*, the Court said that this was the dispositive issue to be considered. In the *AT&T* decision cited above, the Court reaffirms that this is the issue for assessing the “useful, concrete, and tangible” nature of a set of claims under 101 doctrine. Accordingly, Examiner views the *Warmerdam* holding as the dispositive issue in this analogous case.

20. The fact that the invention is merely the manipulation of *abstract ideas* is clear. The data referred to by Applicant’s phrase “pints” is simply an abstract construct that does not provide limitations in the claims to the transformation of real world data (such

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as monetary data or heart rhythm data) by some disclosed process. Consequently, the necessary conclusion under *AT&T*, *State Street* and *Warmerdam*, is straightforward and clear. The claims take several abstract ideas (i.e., "points") and manipulate them together adding nothing to the basic equation. Claims 8-10 are, thereby, rejected under 35 U.S.C. §101.

Claim Objections

21. Claim 1 is objected to because of the following informalities:

The phrase "said road location" on line 11 lacks antecedent basis; there is only a prior limitation of an on-road location (line 4).

Appropriate correction is required.

22. Claim 8 is objected to because of the following informalities: a misspelled phrase "short then" on line 8.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

23. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Ito et al. (US Patent No. 6,249,740).

Claim 1

Ito teaches a location information transmission method for reporting on-road location information (col. 3, lines 14-19) on a digital map (col. 9, lines 15-17), characterized in that

an information provider reports, as on-road location information (provider is disclosed as a navigation base apparatus; see col. 3, lines 14-19);

a string of coordinates line information representing a road shape of a road section including the on-road location (col. 19, lines 50-57; see Fig. 11) having a length determined depending on difficulty of shape matching (col. 20, lines 18-22);

additional information including an information item selected from a group of attribute information on a road including said road location and detailed information on nodes in said road section (col. 9, lines 19-25); and

relative information indicating said on-road location in said road section (col. 17, lines 53-55, 59-62), and that

a party that receives said on-road location information (navigation apparatus of a moving body; see col. 3, lines 14-19) performs shape matching to identify said road section on a digital map and uses said relative data to identify the on-road location in said road section (Fig. 11; col. 19, lines 66-67, col. 20, lines 1-12. Shape matching is disclosed as comparing patterns).

Claim 2

Ito teaches a location information transmission method according to claim 1, characterized in that a string of coordinates where coordinate data indicating the positions of the nodes (disclosed as intersection, see col. 9, lines 26-32) and interpolation points (disclosed as nodes, see col. 9, lines 20-21) included in said road section are arranged sequentially is used as said string of coordinate information (Fig. 7; col. 17, lines 35-39).

Claim 3

Ito teaches a location information transmission method according to claim 2, characterized in that interpolation points that contribute less to shape matching are omitted out of the interpolation points included in said road section in order to generate said string of coordinate information (col. 8, lines 31-35).

Claim 4

Ito teaches a location information transmission method according to claim 3, characterized in that an interpolation point is omitted (omitting points that are not course-changing is disclosed in col. 8, lines 31-35) where a change in bearing is less than a predetermined angle with respect to bearing from an adjacent interpolation point or node (such check is being disclosed as a part of determining if a point is course-changing; see Fig. 6, col. 12, lines 16-23) and a distance from said interpolation point or

node is less than a predetermined distance in order to generate said string of coordinates information (col. 20, lines 46-57).

Claim 5

It teaches a location information transmission method according to claim 2, characterized in that, as said string of coordinate information, coordinate data of a member chosen from a group of nodes and interpolation points included in said road section is represented using absolute coordinates (disclosed as geographical coordinates, see col. 23, lines 26-33) and

that data of members of nodes and interpolation points excluding said chosen member is represented using relative coordinates (col. 23, lines 33-48).

Claim 6

It teaches a location information transmission method according to claim 1, characterized in that said additional information includes at least one information item chosen from a group of road type code, road number, toll highway code, number of traffic lanes, regulation information, road width, number of connecting links to a crossing node, and connection angle of each connecting link to a crossing node (Fig. 7; col. 9, lines 19-25).

Claim 7

Ito teaches a location information transmission method according to claim 6, characterized in that said additional information includes accuracy information on a digital map data used (col. 14, lines 39-46, where accuracy information is disclosed by transmitting an outline map that is a scaled down version of a map).

Claim 8

Ito teaches method for thinning-out a plurality of points representing a road shape, comprising steps of:

providing a string of coordinates defining said plurality of points (col. 19, lines 50-57; see Fig. 11);

determining whether the bearing deviation, d_n of an interpolation point, P_n of said string of coordinates from a preceding interpolation point, P_{n-1} of said string of coordinates is smaller than a predetermined angle, α (Fig. 6, col. 12, lines 16-23);

determining whether a distance, g_n of the interpolation point, P_n from the preceding interpolation point, P_{n-1} is shorter than a predetermined length, β (col. 20, lines 46-57); and

omitting the interpolation point, P_n from the string of coordinates if both $d_n < \alpha$ and $g_n < \beta$ as determined in the determining steps (col. 8, lines 31-35).

Claim 9

Ito teaches the method of claim 8, further comprising a step of incrementing the value of n by 1 and then repeating the steps of determining and the step of omitting (as disclosed in col. 12, lines 14-19: "The course-change point Judgment is carried out for all intersections existing on the searched route..." Therefore, such step inherently implies incrementing the value of n by 1 and repeating the steps of determining and omitting).

Claim 10

Ito teaches the method of claim 8 wherein each of the points is represented using relative information based on one of the plurality of points (col. 23, lines 33-48).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kyrtos et al. (US Patent No. 5,375,059) teaches a vehicle position determination system and method. Odagaki et al. (US Patent No. 5,459,667) teaches a navigation apparatus for informing vehicle driver of information regarding travel route. Wakabayashi et al. (US Patent No. 5,848,374) teaches a map information processing method and apparatus for correlating road location on a road network map. Nanba et al. (US Patent No. 5,874,905) teaches a navigation system for vehicles. Nomura (US Patent No. 5,928,305) teaches a map database apparatus. Katou (US Patent No. 6,006,161) teaches a land vehicle navigation system with multi-screen mode

selectivity. Okude et al. (US Patent No. 6,157,342) teaches a navigation device. Dickson et al. (US Patent No. 6,278,918) teaches a region of interest selection for a vision guidance system. Aruga et al. (US Patent No. 6,278,928) teaches a transmission control device responsive to road information. Adolph (US Patent No. 6,356,836) teaches a method and device for generating, merging and updating of destination tracking data.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sergey Datskovskiy whose telephone number is (571) 272-8188. The examiner can normally be reached on Monday-Friday from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anthony Knight, can be reached on (571) 272-3687. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

S.D.

Assistant examiner

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A handwritten signature in black ink, appearing to read 'Anthony Knight', is positioned above the printed name.

Anthony Knight

Supervisory Patent Examiner

Technology Center 2100